White Paper

GAPS IN DATA AVAILABLE TO ASSESS NEED FOR SERVICES, TO UNDERSTAND USE OF SERVICES ACROSS SETTINGS AND TO PLAN FOR AN INTEGRATED MENTAL HEALTH SYSTEM

Prepared for the

**Task Force on the Plan to Guide the Future
Mental Health Service Continuum**

**For Review and Distribution at the
September 23, 2008 Task Force Meeting**

MARYLAND HEALTH CARE COMMISSION

Plan to Guide the Future Mental Health Service Continuum in Maryland

Gaps in data available to assess need for services, to understand use of services across settings and to plan for an integrated mental health system

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I. Introduction

A. Purpose of the Plan

The 2007 Joint Chairmen's Report[1] (JCR) directed the Maryland Health Care Commission (MHCC or Commission) to work with the Department of Health and Mental Hygiene (DHMH) and Maryland's Mental Health Transformation State Incentive Grant (MHT-SIG) to develop a plan to guide the future mental health service continuum needed in Maryland. The report recommended that the Maryland Health Care Commission develop projections of future bed need for acute inpatient psychiatric services (in State-run psychiatric, private psychiatric and acute general hospitals) and community-based services and programs needed to prevent or divert patients from requiring inpatient mental health services, including services provided in hospital emergency departments. To guide the development of the plan, the JCR identified key stakeholder organizations to be included on a Task Force to provide assistance to the Commission in the development of the plan.

The Plan to Guide the Future Mental Health Service Continuum is intended to address a number of key questions, including:

 - ➤ What are the service components of the crisis emergency system (including acute inpatient treatment)? How will the components differ across urban, suburban and rural areas?
 - ➤ Which crisis response services should be generally available and which should be targeted to specific and/or enrolled clients?
 - ➤ Who is expected to access the services (public consumers, privately insured individuals or both)?
 - ➤ Where are the services needed? What service components should be available in urban, suburban and rural areas?
 - ➤ What will the service components cost?
 - ➤ Who will purchase the services (public payers, commercial carriers or both)?
 - ➤ What financial base is available to support service development and use? Will existing dollars be diverted to these services or will the services only be created through new funding?
 - ➤ How will the plan be implemented?

B. Purpose and Scope of the White Paper

This White Paper identifies gaps in the collection, analysis, and public reporting of data necessary to support and manage an integrated mental health system. The paper discusses reasons for data collection and includes a review of state-level data collection, analysis, and public reporting with respect to mental health. In addition, this paper includes recommendations for improving Maryland's ability to effectively plan for mental health services.

II. Background

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[1] Chairmen of the Senate Budget and Taxation Committee and House Committee on Appropriations, Report on the State Operating Budget (HB50) and the State Capital Budget (HB51) and Related Recommendations, Joint Chairmen's Report, Annapolis, Maryland, 2007 Session, p. 97-98.

A. Reasons for Collecting, Analyzing and Publishing Data

Operating an effective mental health system requires three sets of activities that are heavily dependent on data collection, analysis, and dissemination: planning, utilization management/utilization review, and quality improvement. Further discussion of each of these sets of activities follows.

1. Planning

Most healthcare systems use a population-based approach to system planning. They also typically use historical, prevalence, and prospective data to answer two sets of questions:
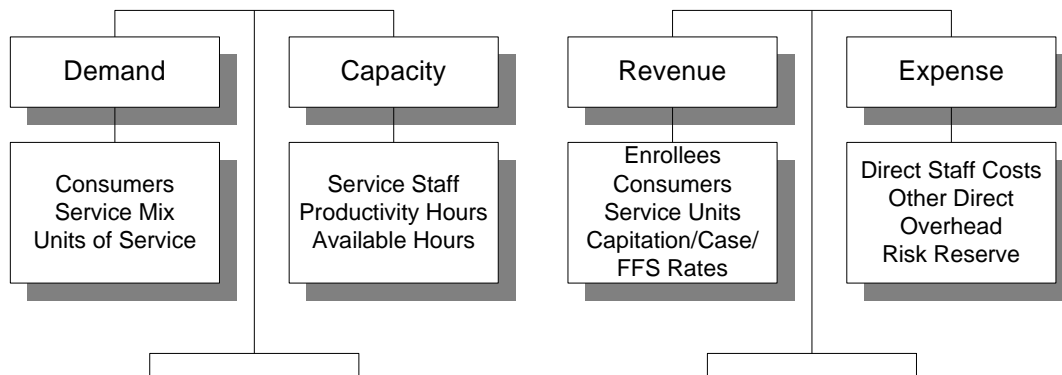
Demand/Capacity Planning
- What is the population the healthcare system is responsible for serving?
- What types of healthcare services are necessary to meet the needs of the population?
- How much of each type of service is needed and how does this translate into the number of clinician full-time equivalents, hospital beds, etc.?
- What is the supply/availability of resources?
- What are the current service levels and system expenditures?
- What gaps exist between current capacity and projected demand?

Revenue/Expense
- What is the cost of meeting the projected demand?
- What overhead and risk reserve requirements must be covered to support the system?
- What revenues are available to meet the needs of the population and different categories of services?
- What restrictions exist with available revenues?
- What gaps exist between current revenues and projected expenditures?
- What additional sources of revenue may be available to address the projected demand and cost?

Figure 1 illustrates the planning process through the view of two balances: demand needs to balance with capacity and revenue needs to balance with expense.

Figure 1: Demand/Capacity, Revenue/Expense Balances

Demand	Capacity	Revenue	Expense
Consumers Service Mix Units of Service	Service Staff Productivity Hours Available Hours	Enrollees Consumers Service Units Capitation/Case/ FFS Rates	Direct Staff Costs Other Direct Overhead Risk Reserve

Population-based planning became a formal requirement in August 2003 for states operating Medicaid managed care programs such as Maryland's Health Choice 1115 waiver. Two excerpts from federal regulations pertaining to Managed Care Organizations (MCOs), Pre-paid Inpatient Health Plans (PIHPs) and Pre-paid Ambulatory Health Plans (PAHPs), in particular, provide guidance in this area.

> **42 CFR 438.206(b)(1): Delivery Network[2]**
> The State must ensure, through its contracts, that each MCO, and each PIHP and PAHP consistent with the scope of the PIHP's or PAHP's contracted services, meets the following requirements:
> (1) Maintains and monitors a network of appropriate providers that is supported by written agreements and is sufficient to provide adequate access to all services covered under the contract. In establishing and maintaining the network, each MCO, PIHP, and PAHP must consider the following:
> (i)   The anticipated Medicaid enrollment.
> (ii)   The expected utilization of services, taking into consideration the characteristics and health care needs of specific Medicaid populations represented in the particular MCO, PIHP, and PAHP.
> (iii)   The numbers and types (in terms of training, experience, and specialization) of providers required to furnish the contracted Medicaid services.
> (iv)   The numbers of network providers who are not accepting new Medicaid patients.
> (v)   The geographic location of providers and Medicaid enrollees, considering distance, travel time, the means of transportation ordinarily used by Medicaid enrollees, and whether the location provides physical access for Medicaid enrollees with disabilities.
>
> **42 CFR 438.207(b) Assurance of adequate capacity and services**
> The State must ensure, through its contracts, that each MCO, PIHP, and PAHP gives assurances to the State and provides supporting documentation that demonstrates that it has the capacity to serve the expected enrollment in its service area in accordance with the State's standards for access to care under this subpart.
> (b) Nature of supporting documentation. Each MCO, PIHP, and PAHP must submit documentation to the State, in a format specified by the State to demonstrate that it complies with the following requirements:
> (1)   Offers an appropriate range of preventive, primary care and specialty services that is adequate for the anticipated number of enrollees for the service area.
> (2)   Maintains a network of providers that is sufficient in number, mix, and geographic distribution to meet the needs of the anticipated number of enrollees in the service area.

In order to meet these federal requirements, states must design and complete a population-based study for projecting the service needs of the Medicaid enrollees, compare those needs against the capacity of the provider network, and take steps to fill the gaps.

This type of population-based planning approach, while well established in general health care and public health, is relatively new to mental health. A number of states have worked with the federal government, the National Association of State Mental Health Program Directors (NASMHPD), and academic researchers to compile and analyze portions of a demand/capacity, revenue/expense planning model. This has focused primarily on the following:

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[2] Code of Federal Regulations, http://www.gpoaccess.gov/CFR/retrieve.html

- National prevalence methodologies, similar to demand planning, have been developed at the federal level and refined in some states. Dr. Charles Holzer at the University of Texas Medical Branch in Galveston is the leading expert in this area and is in the process of attempting to obtain support to develop a prevalence model for every county in the United States.
- The National Research Institute (NRI), a branch of NASMHPD, has compiled information since 1981 on revenue and expenditures that are controlled by state mental health agencies.[3] The NRI has also been funded for a pilot to compile mental health revenue and expenditures for all publicly funded mental health consumers in a small number of states; unfortunately the funder, the Substance Abuse and Mental Health Services Administration (SAMHSA), has discontinued the project.
- Some states have begun to address the capacity/demand issue, primarily through their federal Transformation Grants. Washington State has worked with Dr. Joseph Morrissey from the University of North Carolina at Chapel Hill to study mental health workforce shortage among the state's mental health workers.[4]

To date we have not seen a study that combines the study of capacity and demand with revenue and expense to produce a statewide planning analysis.

In a state such as Maryland that is working to create an integrated mental health system, it is important to identify the different state systems serving persons with mental disorders and complete a planning process that includes all "publicly funded" consumers and all available state and federal resources.

2. Utilization Management/Utilization Review

The National Committee for Quality Assurance defines Utilization Management as the processes that "ensure that enrollees have equitable access to care across the delivery system.[5]" To accomplish this, Utilization Management processes focus on defining and regulating the provision of services in relation to overall capacity and the needs of patients. Goals of mental health Utilization Management programs often include ensuring that *consumers receive care in the least restrictive environment* and ensuring *services provided are effective and appropriate*.

Among Utilization Management processes, Utilization Review is often employed. Utilization Review is the systematic review of case records to assess service delivery appropriateness and to assess the existence of decision and documentation practices required by the provider, delivery system and/or payor.

A Utilization Management Program ensures oversight of the utilization of services at multiple levels of the delivery system:

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[3] National Research Institute, Revenues and Expenditures Study, http://www.nri-inc.org/projects/Profiles/RevenuesExpenditures.cfm
[4] Geographic Disparities in Washington State's Mental Health Workforce, Joseph P. Morrissey, Ph.D., Kathleen C. Thomas, Ph.D., Alan R. Ellis, MSW, T. Robert Konrad, Ph.D., Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, 2007
[5] Standards for Accreditation of Managed Behavioral Healthcare Organizations. National Committee for Quality Assurance, 1997.

➢ Individual consumers of all ages
➢ Provider organizations
➢ County-wide patterns of care
➢ Statewide patterns of care

This oversight is accomplished through specific activities at each stage in the delivery of services:

- *Initial authorization:* the review and documentation of medical necessity for a specific type or level of service prior to or at the initiation of the service (also called certification, payment authorization);
- *Concurrent review:* the review and documentation of medical necessity for continued stay in a specific type or level of service; and,
- *Retrospective review:* the review of data, clinical charting and other documentation following an episode of care to identify patterns of practice related to medical necessity, continued stay, appropriateness of services and clinical documentation.

Initial authorization and concurrent review often target high risk, high cost cases, while retrospective review samples all cases. All three activities rely on written criteria for determining clinical appropriateness. This is done through matching the type, frequency, amount, duration and intensity of services with patient characteristics (diagnosis, level of functioning, acuity, history, mental status, age, gender) to achieve outcomes. For Maryland, utilization management and review are carried out by an Administrative Services Organization (ASO), MAPS-MD.

3. Quality Improvement

Quality Improvement requires pulling together *data-driven* activities into the *Plan, Do, Study, Act*[6] logic model that provides the basis for managing mental health systems. **Figure 3**, also known as the Quality Improvement Cycle, illustrates this logic model.

Figure 3: Quality Improvement Cycle
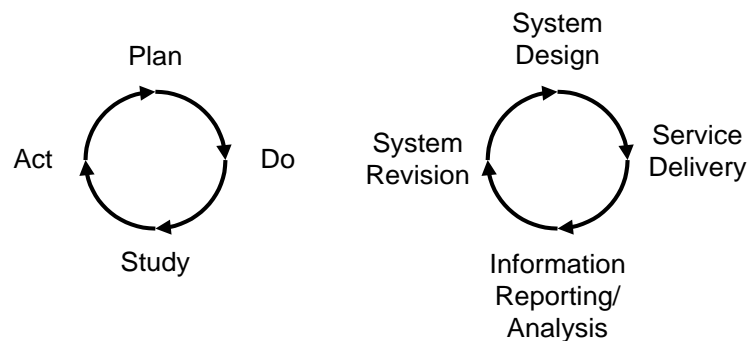
Understanding and improving the Information Reporting/Analysis step in the Maryland Mental Health System is one important goal of this White Paper. As described in the prior planning section, the federal quality improvement rules for managed care plans such as Maryland's Health Choice 1115 waiver were further clarified in the Code of Federal Regulations released in August 2003. Another

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[6] The PDSA Cycle was popularized by Dr. W. Edwards Deming in the 1980s, based on the work of Walter Shewhart in the 1930s.

excerpt from the Code of Federal Regulations, describing the standards for states' performance improvement programs follows.

> **Quality Assessment and Performance Improvement Program[7]**
> *42 CFR 438.240 Quality assessment and performance improvement program*
> *(a) General rules. (1) The State must require, through its contracts, that each MCO and PIHP have an ongoing quality assessment and performance improvement program for the services it furnishes to its enrollees.*
> > *(2) CMS, in consultation with States and other stakeholders, may specify performance measures and topics for performance improvement projects to be required by States in their contracts with MCOs and PIHPs.*
> *(b) Basic elements of MCO and PIHP quality assessment and performance improvement programs. At a minimum, the State must require that each MCO and PIHP comply with the following requirements:*
> > *(1) Conduct performance improvement projects as described in paragraph (d) of this section. These projects must be designed to achieve, through ongoing measurements and intervention, significant improvement, sustained over time, in clinical care and nonclinical care areas that are expected to have a favorable effect on health outcomes and enrollee satisfaction.*
> > *(2) Submit performance measurement data as described in paragraph (c) of this section.*
> > *(3) Have in effect mechanisms to detect both underutilization and overutilization of services.*
> > *(4) Have in effect mechanisms to assess the quality and appropriateness of care furnished to enrollees with special health care needs.*

Measures used by Maryland to show compliance with the 1115 waiver cover a broad range of areas, including a few specifically related to mental health. These measures include time to a follow-up mental health visit after hospitalization for mental illness and number of visits within 84 days following diagnosis of depression and a prescription for it).[8] These two measures are useful, but only cover a segment of the population in need of mental health services. Measures are also needed for assessing the use of mental health services outside the public mental health system.

B. Data Typically Used for Quality Improvement

There have been a number of national efforts by the federal government and accreditation bodies to develop healthcare and behavioral health performance measures. The Substance Abuse and Mental Health Services Administration (SAMHSA) and SAMHSA's Center for Mental Health Services (CMHS) have been the main governmental entities involved in mental health performance measures. Their efforts include:

- **Uniform Reporting System (URS):** This project has been underway since 1997. The URS is organized into four Domains: Access, Appropriateness, Outcomes and Structures.[9] Reports are generated annually for the 50 states. The most recent published report is for fiscal year 2006.

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[7] Code of Federal Regulations, http://www.gpoaccess.gov/CFR/retrieve.html
[8] Department of Health and Mental Hygiene. "Maryland HealthChoice Program 1115 Waiver Renewal Application." http://www.dhmh.state.md.us/mma/healthchoice/pdf/Waiver_Renewal_Application.pdf
[9] SAMHSA's Center for Mental Health Services Mental Health Statistics, http://mentalhealth.samhsa.gov/cmhs/MentalHealthStatistics/

- **National Outcome Measures (NOMs):** NOMs, which should be considered a work in progress, are focused on what SAMHSA describes as "meaningful, real life outcomes for people who are striving to attain and sustain recovery; build resilience; and work, learn, live and participate fully in their communities." SAMHSA has identified ten mental health NOMs that loosely crosswalk to the URS taxonomy—eight Outcome measures, one Access measure and one Structure measure.[10]

In the non-governmental sector, five accreditation bodies have provided leadership in the area of performance measurement.

> ➤ The Joint Commission on Accreditation of Healthcare Organizations (JCAHO)
> ➤ The National Committee for Quality Assurance (NCQA)
> ➤ The Commission on Accreditation of Rehabilitation Facilities (CARF)
> ➤ The Council on Accreditation for Children and Family Services (COA)
> ➤ The Council on Quality and Leadership in Support of Persons with Disabilities (The Council)

In 2001, the American College of Mental Health Administration (ACMHA) released a report: "A Proposed Consensus Set of Indicators for Behavioral Health" that represented a four-year collaborative effort by the five accreditation bodies. Similar to the URS, the Consensus Set contains 35 measures in three domains: Access, Process and Outcomes. **Table 1** provides a crosswalk matrix of the URS and ACMHA performance measure sets.

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[10] SAMHSA's National Outcome Measures, http://www.nationaloutcomemeasures.samhsa.gov/

Table 1: ACMHA and URS Domains, Topics and Tables

Domain	ACMHA Topic	URS Table
Access	1. Services are available 2. Services are convenient 3. Services are timely 4. Services are provided	Table 1: Demographic Characteristics Of Persons Served By The State Mental Health Authority Table 2: Persons Served In Community Mental Health Programs By Age And Gender Table 3: Persons Served In State Psychiatric Hospitals By Age And Gender Table 4: Persons Served SMHA Systems With Medicaid And Other Funding Sources By Race And Gender
Process/ Appropriate-ness	1. Treatment decisions 2. Responsiveness 3. Non-coercive treatment 4. Experience of care 5. Cross system needs 6. Safe treatment	Table 1: Homeless Persons Served By Community Mental Health Programs By Age And Gender Table 2: Number Of Admissions During The Year To State Hospital Inpatient And Community-Based Table 3: Mean Length Of Stays Of Adults And Children In State Psychiatric Hospitals Table 4: Percent Of Adults with SMI and Children with SED And Percent Of Adults And Children Served Who Have Co-Occurring Mental Health/Alcohol and Other Drug Abuse Disorders
Outcome	1. Well being 2. Work and school 3. Safety 4. Legal involvement 5. Housing	Table 1: Employment Status Of Adult Mental Health Consumers Served In The Community By Age And Gender Table 2: Consumer Survey Results Table 3: Consumer Survey Results by Race
Structure	N/A	Table 1: State Mental Health Agency Controlled Expenditures For Mental Health Table 2: State Mental Health Agency Controlled Revenues By Funding Source Table 3: Federal Mental Health Block Grant Expenditures For Non-Direct Service Activities

Both data sets draw on the two types of methods for gathering performance measure data—surveys of consumers or their families and mental health information system transaction data. Mental health information system transaction data include details captured through data entry screens as part of the regular clinical and administrative workflows and which are loaded in the system's data tables for later retrieval and analysis. **Figure 3** provides examples of these types of data.

Figure 3: Mental Health Information System Data Components
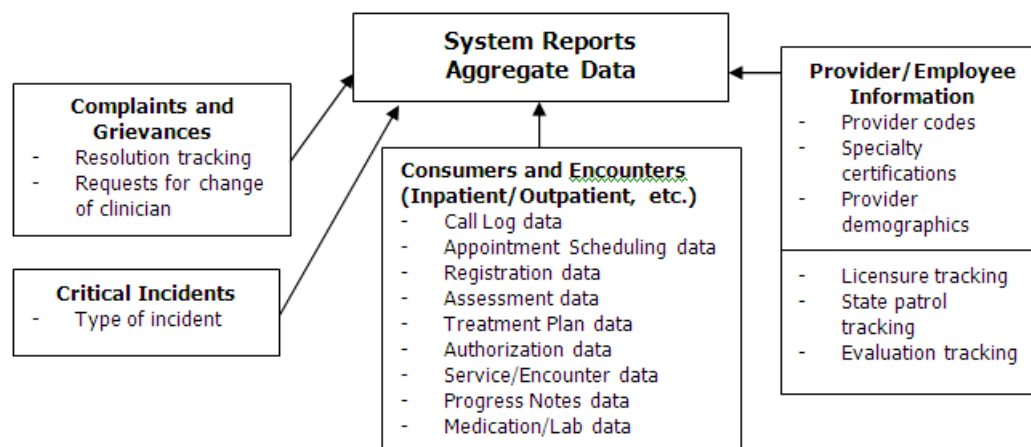
Although national standards provide a good model of the kinds of information to collect, national standards generally are not very useful for creating benchmarks and comparing across states. In some cases, this stems from the differences in how states finance their mental health systems and in others in stems from differences in data collection. For example, as noted in White Paper #2, the data collected for the URS system is not readily comparable across states because in some states mental health services through Medicaid may not be included in statistics.

III. Overview of Maryland's Mental Health Data Collection, Analysis, and Public Reporting Systems[11]

As previously noted, one of the key reasons for collecting mental health data is to plan for the demand for mental health services and to determine the capacity for delivering such services. The Maryland Mental Hygiene Administration has primary responsibility for organizing and managing Maryland's public mental health system, and it largely collects and uses information from eight databases. This section describes the utility of this data in measuring the demand for mental health services and recommends ways to improve forecasting the demand for such services. This is followed by a brief discussion of the ways in which data is collected on the existing capacity for provision of mental health services and recommendations for improving capacity measures. Lastly, public reporting of mental health service use is described, along with recommendations regarding additional reporting.

A. Data Collection and Analysis Related to the Demand for Mental Health Services

Maryland collects a large amount of information on the use of certain mental health services and the characteristics of users through eight data systems. Maryland largely relies on the historical use of services for planning purposes. As noted in the first White paper, it is very difficult to measure the

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[11] Material for this section was based on phone interviews and documents supplied by the Maryland Mental Hygiene Administration, Tim Santoni of the University of Maryland's Systems Evaluation Center, and Roger Lippman from MAPS-MD (unless otherwise noted).

demand for acute or other psychiatric services because there are multiple ways to meet an individual's need for mental health care and assumptions about needs cannot be readily made based simply on a diagnosis. Therefore, use rates often become the default measure of demand for planning purposes. Below is a description of the main sources of data on mental health services in the public and private sectors, followed by a discussion of the additional data collection and analysis which may be useful for evaluating the demand for acute mental health services.

Maryland Public Mental Health System (PMHS) Data System: The primary community-based mental health data and reporting system is managed by an Administrative Services Organization (ASO), MAPS-MD (*APS Healthcare*). The data system collects information for Medicaid and uninsured individuals who receive services in the mental health fee-for-service system. The system contains data on providers, eligibility, authorizations and claims. Medicare services, crisis services and some hospital-based services are not in this data system. Primarily, the services not collected in the system are the contractual services provided by core service agencies. Examples of specific services include non-residential crisis services and in-home interventions for children in some counties. Each CSA collects its own data without coordination through the State.

All non-emergency services are tracked through an authorization system that is structured around episodes of care. Medicaid client information is accumulated through the Medical Assistance (MA) eligibility file. Unduplicated counts are calculated by using unique identifiers. Provider data come from provider enrollment files, which are used both for referral and for payment of claims. Finally, event and cost data are derived from claims files. Emergency services do not require prior authorization. Medicaid eligible individuals receiving emergency services are tracked through the same system that captures claims data for non-emergency services.

Maryland State Psychiatric Hospital Data Base: The Mental Hygiene Administration (MHA) uses a Hospital Management Information System (HMIS) to track admission, discharge, census and other related information for all of the State psychiatric hospitals and residential treatment centers. It is also used by another division of the Department of Health and Mental Hygiene (DHMH) to bill for services provided in these settings. The system has a pharmacy component and many hospitals have added additional data elements. While this system does not use the same consumer identifiers as the ASO data system, there are elements common to both which MHA has used to establish a nearly unique identifier based on demographic variables. This identifier has been used to link data from the two systems. This system, which has been in place since 1986, is scheduled for replacement.

Core Service Agency Crisis Databases: A small number of mental health services are provided under contracts with local mental health authorities which Maryland designates Core Service Agencies (CSA). Many CSAs operate crisis services in conjunction with law enforcement or emergency medical personnel. A number of CSAs also offer special assistance to individuals who have just been released from the hospital or from jail. Most non-crisis-only individuals who receive such supports from the CSAs are also active in the fee for service system. Many, but not all, CSA-funded services are tracked through local databases.

Maryland Acute Care Hospital Discharge Database: The State maintains a data system that collects data from acute general hospitals including psychiatric service discharges, patient days, age group, principal and other diagnoses, jurisdiction of patient residence, payer source and selected other data elements.

Maryland Hospital Ambulatory Care Database: The State maintains a second data system for acute general hospitals in order to collect information on emergency department and clinic visits, age group, principal and other diagnoses, jurisdiction of patient residence, payer source, and other data elements.

Maryland Private Psychiatric Hospital Discharge Database: The State also maintains a data system that collects data for four of the five freestanding psychiatric hospitals including, discharges, patient days, age group, principal and other diagnoses, jurisdiction of patient residence, payer source, hospital and selected other data elements.

Medicare Outpatient Standard Analytical File (SAF): The Medicare Outpatient SAF contains final action claims data submitted by institutional and outpatient providers including hospital outpatient departments and community mental health centers. Some of the information contained in this file includes diagnosis and procedure (ICD-9 diagnosis, ICD-9 procedure code, CMS Common Procedure Coding System (HCPCS) codes), dates of service, reimbursement amount, outpatient provider number, revenue center codes and beneficiary demographic information.

Diversion Programs: Information is collected from three hospital diversion programs (Baltimore City, Anne Arundel County, and Montgomery County). Some of the data collected from these programs was presented at the second meeting of the Taskforce. These data may provide a basis for estimating the extent to which inpatient psychiatric services may be reduced through hospital diversion programs.

Discharge Barriers: Staff from MHA have indicated that there is not a tracking system for patients in State hospitals, but it frequently surveys hospitals and CSAs to determine the needs of individuals in State hospitals. MHA staff reported that affordable housing is a frequently a barrier, and finding residential services for individuals with complicated medical, psychiatric, and forensic issues was also reported as a barrier. Data regarding barriers for patients at other locations (private psychiatric hospitals and general hospitals) would be helpful for providing a more comprehensive analysis of the needs of patients.

Data Analysis of MAPS-MD Data: Currently more than 50 standard reports are generated with data from MAPS-MD to assist in general planning, policy and decision making.

Staff at MAPS-MD prepare a Quarterly PMHS Report that contains more than 30 exhibits, covering measures in the following eight areas:

- Number of Consumers Served
- Penetration Rates
- Claims Expenditures
- Cost per Consumer
- Average Number of Services per Consumer
- Units of Service
- Number of Providers
- Claims Processing Performance

The reports generated from the PMHS/MAPS-MD Data Warehouse provide useful information for

planning purposes, such as the average amount of resources required per consumer and the types of services most frequently needed. The ability to group data by consumers' counties of origin and to display data across multiple years further enhances the utility of the data. Examples of reports generated from the system are included in Appendix 1. These reports illustrate some of the ways in which data may be displayed graphically, such as line and bar graphs.

MAPS-MD data for at least a few specific subgroups of users has been analyzed. For example, high intensity users with Medicaid insurance were examined, in order to evaluate a specific pilot program, intensive care management (ICM). The number of inpatient admissions per consumer was compared before and after the program. Costs per consumer before and after participation in the program were also compared. Results showed that ICM was successful in reducing the use of acute inpatient bed days and costs per consumer.[12] Other new types of analyses are regularly considered during bi-weekly meetings between MHA and MPAPS-MD and SEC staff. Another group of users that MHA has focused on is those with high costs over several years. Other groups examined are those with serious mental illness or a serious emotional disorder and those with a dual diagnosis.

Analysis of Diversion Programs: Data was collected on the number of consumers at hospitals' emergency departments who were determined to be in need of hospital-level care. Uninsured consumers with psychiatric diagnoses were those considered eligible for diversion services, and the location of care following their disposition was tracked. Those that received community-based alternatives to acute psychiatric care were counted as patients who had been diverted. By comparing the number of bed days and discharges for hospitals before and after the implementation of the diversion programs, it's possible to measure the impact of the program on inpatient hospital use.

Mental Health Systems Improvement Collaborative: For several years, MHA has partnered with the Mental Health Systems Improvement Collaborative. The Collaborative is a unit in the University of Maryland School of Medicine, Department of Psychiatry, Division of Services Research. The Collaborative includes three Centers, a Training Center, an Evidenced Based Practices Center and a Systems Evaluation Center (SEC). Approximately five years ago, MHA asked the SEC to expand its role and provide assistance and staff to its data infrastructure efforts. Since that time, the SEC has established a data base maintaining the historical and current PMHS data and it has developed capacity to assist MHA in data maintenance, analysis and reporting.

Currently the SEC is preparing a Statistical Profile of Maryland Mental Health Systems in support of the Plan to Guide the Future Mental Health Service Continuum in Maryland. Data analysis for the Statistical Profile will include use of emergency departments by individuals with psychiatric diagnoses, use of state hospitals, use of acute general hospitals, and use of private psychiatric hospitals. The Statistical Profile will be the first effort to consolidate and report on data from the systems described above along with data from US Census and SAMHSA data sources.

Additional Need for Data Collection and Analysis:

- Analysis of emergency department decisions regarding consumers with psychiatric diagnoses may be useful. Some members of the Taskforce have expressed concerns about these

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[12] http://www.nri-inc.org/conferences/Presentations/2008/24_Hadley.pdf

decisions. If persons are being admitted to acute inpatient psychiatric care, when they could be served through community alternatives, then the need for inpatient services may be lower than suggested by discharge data.

- Collection and analysis of wait times in emergency departments for consumers with mental health diagnoses may be useful for identifying areas where there are shortages of psychiatric beds or shortages of other mental health services.

- Data from other states on the use of acute psychiatric services and services that may substitute for acute inpatient care, or substantially reduce the need for inpatient care would be useful in defining the minimum level of acute inpatient care that should be regarded as necessary. It could also provide some guidance as to the level of community services necessary to reduce the use of acute inpatient psychiatric care.

- Data from localities on mental health services that are funded locally is currently not collected and may be useful for analyzing the demand for some services. Ideally, the data should be collected in a way that allows for integration with other data systems.

- Data from general hospitals, private psychiatric hospitals, and State hospitals on discharge barriers for patients. A survey of hospitals for a brief period, such as a month, may be sufficient to estimate the extent to which discharge barriers result in longer inpatient care, as well as, the types of services missing. These data may provide a basis for estimating the extent to which inpatient psychiatric services may be reduced through the elimination of discharge barriers.

- Analysis of data to evaluate whether there may be unmet demand among Medicaid recipients may be useful, based on the results of a study published in 2003 by the Research and Analysis Division of the Washington State Department of Social and Health Services. The study, *Cost Offsets and Client Outcomes Technical Report,*[13] examined the effects of publicly funded mental health care on medical costs and mortality for aged, blind or disabled Medicaid clients who had a mental illness diagnosis in their medical records at some point between July 1998 and June 2002. The study's major finding was that adult aged, blind, or disabled clients on Medicaid who received publicly funded mental health treatment had lower subsequent medical costs and a reduced risk of death compared to clients diagnosed with mental illness who did not receive mental health treatment.

  Other key sub-findings included:

  - Cost for clients receiving outpatient mental health treatment were reduced by about $105 per member per month (PMPM) in the first follow-up year and $126 PMPM in the second year
  - Outpatient therapy and psychotropic medication was found to be more effective in reducing medical care costs than medication alone

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[13] Washington State Department of Social and Health Services Research and Data Analysis Division, http://www1.dshs.wa.gov/pdf/ms/rda/research/3/29.pdf

- The odds of dying were 23 percent lower in a two-year period for Medicaid clients who received outpatient mental health treatment

**B. Data Collection and Analysis Regarding Inpatient Capacity for Mental Health Services**

The available capacity for mental health services has at least two dimensions, the physical bed or program space and staffing of the bed or program. Recently, information has been collected by MHCC and DHMH related to inpatient capacity and the staffing of State hospital beds. However, there is not routine annual data collection of the physical psychiatric bed capacity for all hospitals in the State or of programs that may reduce the use of psychiatric beds, such as crisis services, intensive outpatient services, and partial hospitalization programs. A description of recent data collection activities follows, along with recommendations for future data collection.

Psychiatric Hospital Beds and Programs: The Maryland Health Care Commission (MHCC) produces an annual report on acute care hospital services and licensed bed capacity. However, licensed bed capacity is not an accurate indicator of the number of available beds because of the method for determining licensed capacity, as discussed in the second White Paper. In order to more accurately determine the inpatient psychiatric bed capacity at the state and local level, MHCC staff conducted a survey in June 2008, requesting information on the physical capacity of hospitals (general, private, & State) as well as the staffed capacity. Hospitals were also asked to report on the slots available in their intensive outpatient programs and partial hospitalization programs, if applicable, as well as the number of seclusion spaces available for psychiatric patients.

With regard to State hospitals, MHA's longstanding practice has been to track the average daily population and operated capacity. However, in looking at the mental health system as a whole, it is necessary to consider another factor, the number of forensic patients served. To the extent that State beds are used for forensic patients who cannot be served elsewhere, there may effectively be fewer beds available for civil patients who after being served at a general hospital or private psychiatric hospital require transfer to a State hospital for longer-term care.

Health Care Workforce: Data collected through the Health Resources and Services Administration (HRSA)/Bureau of Health Professions (BHP) for Maryland includes counts of mental health providers. It appears there may be a shortage of mental health professionals in a few areas of the state, based on the most recent HRSA/BHP report for Maryland. The report includes a map with areas labeled as having a shortage of mental health professionals county-wide, in part of a county, or no shortage at all, as shown in **Figure 4** below. The mental health professionals included in the measure are psychiatrists, psychologists, clinical social workers, psychiatric nurses, and therapists with a specialization in marriage and family therapy. Only those who are providing mental health patient care in an ambulatory or short term care setting for a particular geographic area are included, and FTEs are used. As a result, if a provider's time is split by location or setting, it will be counted accurately.

Figure 4: Mental Health Professional Shortage Ratings in Maryland, 2008

MHP Shortage
- No shortage
- Partial shortage
- Countywide shortage
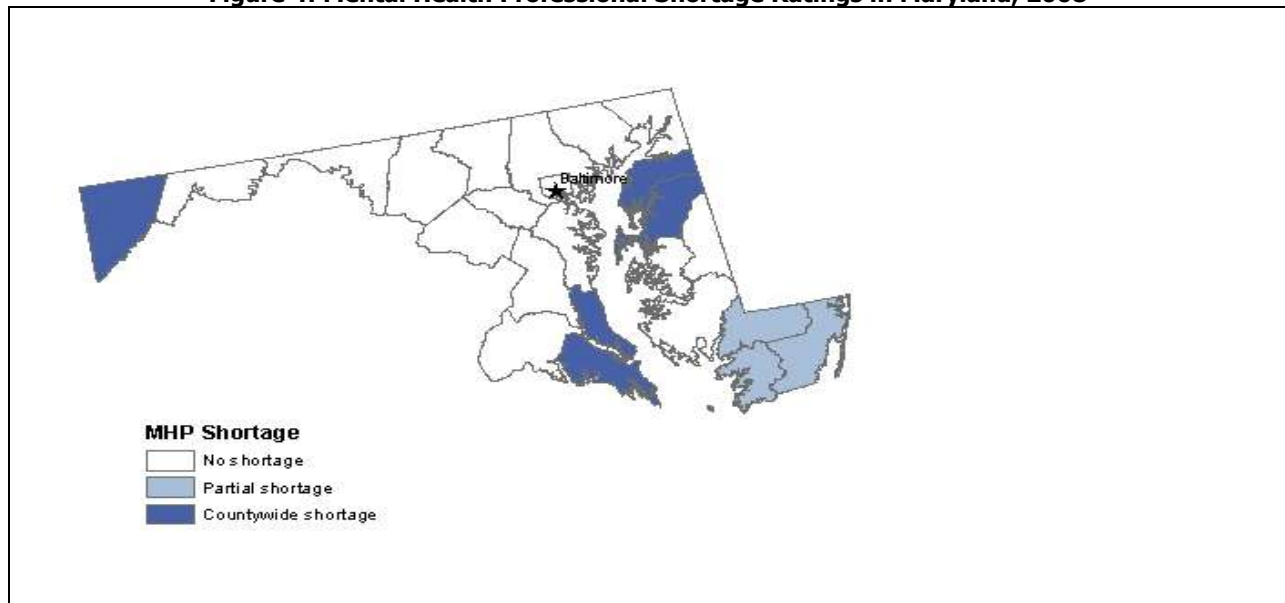
Source: U.S. Department of Health and Human Services. Substance Abuse and Mental Health Services Administration. "State Profiles and Maps." http://www.nationaloutcomemeasures.samhsa.gov.

With regard to State hospitals, a 2007 DHMH report on staffing at State hospitals concluded that there is significant understaffing at some locations, in particular for the patients in Perkins and residential treatment centers (RTCs). The findings of the report suggest that there is less capacity in State hospitals than it appears.

Additional Need for Data Collection:

- It would be useful to have an inventory of crisis services available in each locality. At least a couple states, Virginia and North Carolina, have conducted an inventory of the crisis services available in each locality, as part of evaluating and improving their mental health systems.

- It would also be useful to measure the capacity of other services that could service as an alternative to acute inpatient psychiatric care, besides crisis services, such as intensive outpatient (IOP) and partial hospitalization (PHP) programs. As noted earlier, information on IOPs and PHPs was collected for 2008 on an MHCC survey for the first time. This information should continue to be collected in future years.

- The information collected by MHCC for 2008 on physical and staffed capacity for psychiatric beds at general, private, and State hospitals should continue to be collected in future years.

- In terms of the impact of a shortage of mental health professionals for particular service areas, it would be helpful to investigate how shortages may be affecting the use of psychiatric beds and services, in order to accurately plan for the future. A shortage of mental health professionals may hinder the ability of some locations to staff all their beds or may negatively impact patient care. Shortages may also affect the availability of outpatient care which could then affect the utilization of acute psychiatric care.

C. Data Collection and Analysis Related to Quality of Patient Care

MHA has taken steps to improve the quality of patient care through improvements in the coordination of care, the development of an outcomes measurement system, and a focus on high-intensity users. Each of these programs is described in greater detail below.

Access to Prescription Information: In July 2007, information on Medicaid drug prescriptions filled by consumers in the PMHS became available through CareConnections®. These prescriptions are for all medications other than HIV medications regardless of prescriber. This information is accessible to providers of mental health services. It is available to those providers with existing open authorizations to treat the consumer. The pharmacy data is refreshed monthly and includes prescriptions filled during the 12 months prior to the refresh date. Information is made available to Managed Care Organizations, who can then communicate it to their primary care physicians. This program helps to improve the coordination of patient care and potentially will improve the quality of clinical care.

Outcomes Measurement System (OMS): In Fiscal Year 2007, MHA, in collaboration with the University of Maryland's Systems Evaluation Center (SEC) and Administrative Service Organization (ASO), instituted an Outcomes Measurement System (OMS) statewide for individuals ages six to sixty-four who receive outpatient mental health services in Outpatient Mental Health Clinics (OMHCs), Federally Qualified Health Centers (FQHC's) and hospital-based outpatient mental health clinics. Five outcome domains are being implemented for adults: psychiatric signs and symptoms and symptom distress; functioning, including employment; living situation; criminal justice system/legal involvement; and alcohol and substance use. Six outcome domains are being implemented for children, adolescents and their caregivers: psychiatric signs and symptoms and symptom distress; functioning, including school performance and employment; living situation; social connectedness of the caregiver; juvenile justice system/legal involvement; and alcohol and substance use. In FY 2008, MHA concentrated on developing a structure for outcomes reporting. In early 2008, OMS data was available for 28,809 adults (unduplicated, ages 18-64) who had completed the adult OMS questionnaire and 28,358 children/adolescents (unduplicated, ages 6-17) who had completed the child questionnaire.[14] **Figure 5** contains a sample screen shot from the Adult instrument.

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[14] Information supplied by the Maryland Mental Hygiene Administration.

Figure 5: Adult OMS Questionnaire Sample

SYMPTOMS, FUNCTIONING, AND ALCOHOL/SUBSTANCE USE
Now, I am going to read a series of statements. For each of these statements, please indicate whether you strongly agree, agree, neither agree nor disagree (neutral), disagree, or strongly disagree with these statements.   [CARD #1 with response options]

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
5. I do things that are meaningful to me.						Ψ
6. I am able to take care of my needs.						Ψ
7. I am able to handle things when they go wrong.						Ψ
8. I am able to do things that I want to do.						Ψ
9. My symptoms bother me.						Ψ

The information collected through the OMS questionnaire is anonymous and confidential, so it cannot be used to assist in evaluating the quality of care provided to individual patients. However, it does provide a way of measuring outcomes for patients as a whole and for subgroups of patients, such as age, race, gender, and insurance status. Later this year the public will be able to access data collected through OMS via the internet to create reports of their choice. Reports may be generated based on each of four patient characteristics. Individuals may also create reports with the results of two questions in relation to each other.

Intensive Care Management: As previously discussed MHA decided to focus on high intensity users in the PMHS in order to evaluate a specific pilot program, intensive care management (ICM). MHA. The high intensity users identified were reported by MHA to have frequent or lengthy hospitalization and limited use of community based services. Reducing the use of hospital days and increasing the use of community resources may be regarded as enhancing the quality of patient care.

D. Public Data Reporting in Maryland

Using as a model the ACMHA data reporting previously discussed, there are at least three key areas on which to report information on the mental health system: access, appropriateness, and outcomes. There appear to be two main sources of routine public reporting of this information, the Uniform Reporting System and the Consumer Satisfaction and Outcomes Survey Findings (CSOSF) reports. The latter reports are a product of the Outcomes Measurement System described in the prior section. These two sources are described in greater detail below.

Consumer Satisfaction and Outcomes Survey Findings: The most recent CSOSF report (FY2007) is available on the web site for MAPS-MD. The report includes some information from the two prior years for comparative purposes. The primary focus of the survey is consumer outcomes, but there are some open-ended items on the survey that allow participants to note barriers to care, such as transportation or scheduling difficulties.

Maryland's Involvement in the Uniform Reporting System: Like the other 50 states, Maryland participates in SAMHSA's Center for Mental Health Services (CMHS) Uniform Reporting

System (URS) that was discussed in Section IIB above. Maryland has a strong track record of compiling and submitting data for the URS elements compiled by CMHS. Of the 25 tables submitted for the FY2006 Maryland URS report, 24 had complete data and one was partially complete. **Figures 6 and 7** provide a view of the types of data that are collected and reported.

Figure 6: URS Overview, Indicators 1 – 17

2006 CMHS Uniform Reporting System Output Table   8/19/2007

STATE MENTAL HEALTH MEASURES:
CMHS Uniform Reporting System: Measures

STATE: Maryland   URS Year 5 Reporting

Basic Measures		Number	Rate	US FY 2006	Rate	States
Indicator 1	Penetration Rate per 1,000 population	91,238	16.29	5,979,379	19.88	57
Indicator 2	Community Utilization per 1,000 population	89,972	16.07	5,264,674	18.58	55
Indicator 3	State Hospital Utilization per 1,000 population	3,386	0.60	171,125	18.58	52
Indicator 4	Medicaid Funding Status	76,972	84.4%	3,285,758	61.8%	47
Indicator 5	Employment Status (percent with employment data)	5,524	14%	622,219	22%	54
Indicator 6	State Hospital Admission Rate	2,622	0.77	169,299	1.00	49
Indicator 7	Community Admission Rate	32,800	0.36	2,840,575	0.62	46
Indicator 8	State Hospital LOS Discharged Adult Patients		26 days		121 days	44
Indicator 9	State Hospital LOS Resident Adult Patients		1205 days		869 days	44
Indicator 10	Percent of Client who meet SMI definition		64.4%		73.1%	55
Indicator 11	Adults with Co-occurring MH/SA Disorders		24.0%		22.7%	47
Indicator 12	Children with Co-occurring MH/SA Disorders		3.0%		6.2%	44
Adult Consumer Survey measures						
Indicator 13	Positive About Access		79%		85%	51
Indicator 14	Positive About Quality and Appropriateness		82%		87%	51
Indicator 15	Positive About Outcomes		66%		71%	51
Indicator 16	Positive on Participation in Treatment Planning		77%		82%	50
Indicator 17	Positive General Satisfaction with Services		81%		88%	51

Figure 7: Persons Receiving ACT

2006 CMHS Uniform Reporting System Output Table

APPROPRIATENESS DOMAIN: EVIDENCE-BASED PRACTICES 1:
TABLE 9:   ASSERTIVE COMMUNITY TREATMENT, BY AGE, GENDER AND RACE, FY 2006

STATE: Maryland

	Assertive Community Treatment				Adults with SMI in States Reporting EBP		Penetration Rate: % of Consumers Receiving EBP/Estimated SMI		States Reporting
	State		US		State	US	MD	US	
	n	%	n	%					
Age									
18 to 20	40	3%	1,103	2%	1,717	75,050	2.3%	1.5%	42
21 to 64	1,085	91%	42,500	88%	28,797	1,382,943	3.8%	3.1%	42
65 to 74	45	4%	1,458	3%	617	57,493	7.3%	2.5%	41
75 and Over	23	2%	368	1%	177	33,639	13.0%	1.1%	39
Not Available	-	-	3,023	6%	-	184,093	-	1.6%	19
TOTAL	1,193	100%	48,491	100%	31,308	1,744,901	3.8%	2.8%	45
Gender									
Female	640	54%	21,787	45%	17,302	888,503	3.7%	2.5%	42
Male	553	46%	25,512	53%	14,000	693,067	4.0%	3.7%	42
Not Available	-	-	984	2%	6	187,175		0.5%	27
TOTAL	1,193	100%	48,491	100%	31,308	1,744,901	3.8%	2.8%	45

Data from the psychiatric inpatient and emergency care databases maintained by the Hospital Services Cost Review Commission are currently not routinely reported to the public. Information may be periodically incorporated into public documents, for example, the 2007 MHCC report on emergency department use or other special studies. However, the lack of complete, routine reporting makes it very difficult for those outside the core of the mental health system to participate in data-driven discussions in an informed and constructive manner.

DHMH has reported that it intends to increase the amount of public reporting on mental health data from PMHS. It has already posted quarterly reports on the MHA web site for FY2002-2008 with statewide data on: consumers by age and Medicaid eligibility, Medicaid penetration by age group, claim expenditures, average annual costs per consumer, average number of services by consumer, and service units by service type.

Additional Public Reporting Needed: It may be useful to consider increasing the amount of data publically reported, beyond the planned expansion, based on the reporting provided in some other states, which is described in the next section. Specific examples of additional reporting to consider include the following:

- Reporting on the use of State hospital beds by civil and forensic patients would be useful. As previously noted, to the extent that beds are increasing used for forensic patients, beds are effectively less available to private and general hospitals that may have patients that require continuing care in a State psychiatric bed. Increased public reporting would foster greater communication and collaboration with community providers of mental health services.

- Comparisons with other states, ideally peer states or states that appear to be ahead of Maryland with regard to minimizing the use of acute inpatient psychiatric beds through the use of alternative community resources are essential for evaluating the mental health system in Maryland would be useful.

- Regional or county-level data are essential because there are significant geographic differences in the availability and use of resources around the State.

- Where possible, there should be performance measures that include target values to inform public expectations and to evaluate performance.

IV.   Other States' Approaches to Public Data Reporting

This section discusses the mental health reporting systems in three states—Washington, Oklahoma and New York. These states have been selected because all represent exemplary reporting systems, and each has taken a different approach to publishing mental health data. Together, they provide a concise set of ideas that can assist the Maryland system in moving to the next level of mental health data management.
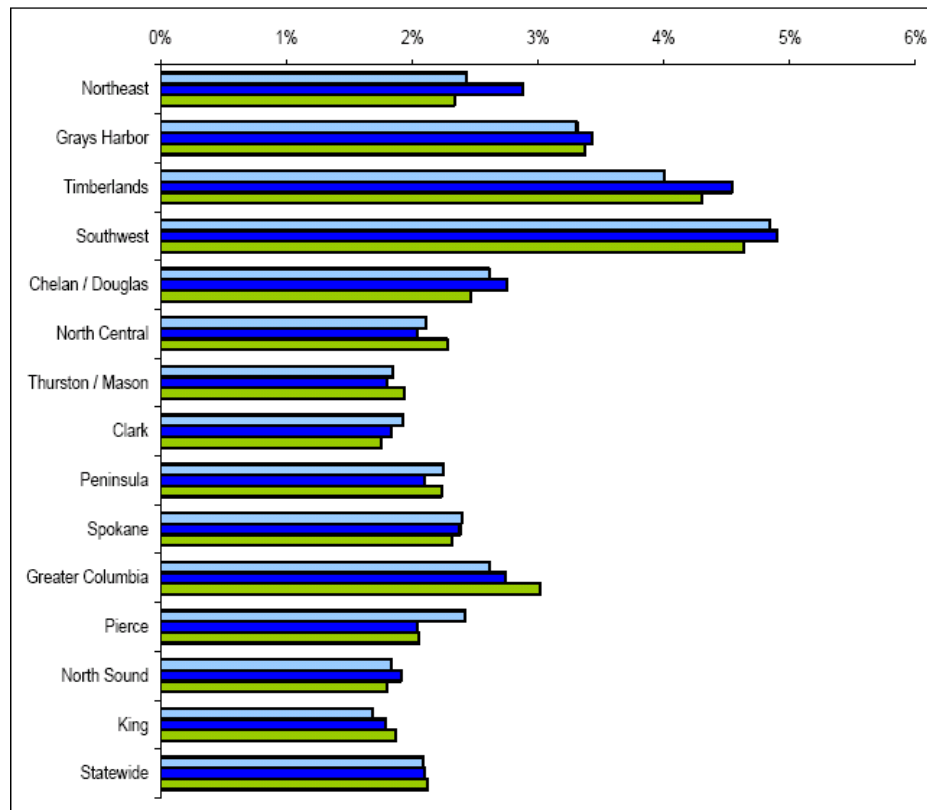
Washington

In 2002, Washington State rolled out a *Statewide Publicly Funded Mental Health Performance Indicators*[15] report that has been published annually since that time. This report addresses indicators in the domains of Access, Quality, Client Status and Expenditures, for each of 13 Regional Support Networks (RSNs) that serve as Medicaid managed care plans and management entities for non-Medicaid mental health funds. The reports also include a statewide average and report on the prior three years, to show trends. Reports are placed on the Mental Health Division's website and can be easily accessed and downloaded in Adobe PDF format by the general public. **Figure 8** provides an example of a typical report and **Appendix 2A** contains a full list of performance measures used in this report.

Figure 8: Washington State Performance Indicator Report Measure I.A.

Community Outpatient Penetration Rates - General Population

Access I. A.   Calc. SAS 05/26/05

RSN	FY02			FY03			FY04		
	Served	Population	Rate	Served	Population	Rate	Served	Population	Rate
Northeast	1,696	69,700	2.4%	2,008	69,800	2.9%	1,637	70,100	2.3%
Grays Harbor	2,263	68,400	3.3%	2,364	68,800	3.4%	2,335	69,200	3.4%
Timberlands	3,809	95,000	4.0%	4,318	95,100	4.5%	4,110	95,500	4.3%
Southwest	4,574	94,400	4.8%	4,653	94,900	4.9%	4,420	95,300	4.6%
Chelan / Douglas	2,630	100,700	2.6%	2,798	101,500	2.8%	2,534	102,600	2.5%
North Central	2,810	132,800	2.1%	2,722	133,300	2.0%	3,067	134,600	2.3%
Thurston / Mason	4,845	262,100	1.8%	4,768	265,000	1.8%	5,212	269,300	1.9%
Clark	7,015	363,400	1.9%	6,841	372,300	1.8%	6,725	383,300	1.8%
Peninsula	7,343	326,200	2.3%	6,921	329,000	2.1%	7,422	332,400	2.2%
Spokane	10,191	425,600	2.4%	10,202	428,600	2.4%	10,011	432,000	2.3%
Greater Columbia	15,982	611,100	2.6%	16,988	619,500	2.7%	19,046	630,400	3.0%
Pierce	17,569	725,000	2.4%	14,936	733,700	2.0%	15,288	744,000	2.1%
North Sound	18,206	993,000	1.8%	19,246	1,007,500	1.9%	18,379	1,020,800	1.8%
King	29,981	1,774,300	1.7%	31,881	1,779,300	1.8%	33,405	1,788,300	1.9%
Statewide	**126,346**	**6,041,700**	**2.1%**	**128,054**	**6,098,300**	**2.1%**	**131,037**	**6,167,800**	**2.1%**

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[15] Washington State Mental Health Division, http://www.dshs.wa.gov/mentalhealth/mhpireports.shtml

Figure 8: Washington State Performance Indicator Report Measure I.A. (continued)

Source: Washington State 2004 Publicly Funded Mental Health Performance Indicators, Page 15

Strengths of the Washington data reporting system include:

- Reports allow for comparison of the performance across the 13 regions with statewide averages
- Performance Management Reports are graphical and include narrative comments
- Reports are placed on the website and can be easily accessed and downloaded by the general public

Drawbacks to the Washington State Performance Indicator reports include:

- Reports are not timely; they are not produced until 12 months after the end of the fiscal year
- There are no monthly or quarterly versions that would allow for better identification of positive or negative trends
- Reports do not contain comparisons with identified *Targets* for Access, Quality, Client Status and Expenditure (internal benchmarks)
- Reports do not contain comparisons with other states (external benchmarks)

Oklahoma

The Oklahoma Department of Mental Health and Substance Abuse Services has developed two noteworthy reporting efforts—a quarterly *Regional Performance Management Report* and an online *Health Information Integrated Query System*.[16]

The *Regional Performance Management Report*, which has been produced since 2003, contains four *focus* indicators and 16 *additional* indicators. This structure eschews an organized taxonomy in favor of highlighting the *focus* indicators and presenting the *additional* indicators in six categories:

- ➢ All Adults (5 measures)
- ➢ Adults with Major Mental Illness (2 measures)
- ➢ Adult Select Priority Group (1 measure)
- ➢ Evidence-Based Practices (3 measures)
- ➢ Children's Services (1 measure)
- ➢ Substance Abuse (4 measures)

Each focus indicator includes a graph that compares each regional provider across multiple quarters, a rationale for the measurement, the goal for the indicator, the current status in relation to the goal, identification of which agencies met the goal, trends and improvement strategies suggested or actions taken by providers. The following excerpts illustrate this thoughtful approach.

Mental Health Measure MH4: Adult Inpatient Follow-up in Outpatient Care
Within 7 Days After Discharge

> **Rationale for measurement:** Persons leaving inpatient care who get involved in community-based services in a timely manner are more likely to have the resources to maintain their community tenure.
>
> **Goal:** The goal for this indicator has been established at 1/2 the standard deviation above the state average for the last eight quarters; i.e., a follow-up rate of 54%.
>
> **Current Status:** Statewide average: 48.5%.
>
> **Met Goal of 54%:** CACMHC, FCS, HOPE, North Care and NCBH.
>
> **Trends:** The state average rate of follow-up rose from 44% in the 4th Quarter of FY05 to 48.5% in the 2nd Quarter of FY06. Six of the fourteen of the agencies saw an increase in the rate of follow-up from the previous quarter; eight showed a decrease…
>
> **Improvement Strategies:** JTCMHC will utilize two part-time Recovery Support Specialists to make contact with clients discharged from inpatient within one to two days.

Each *additional* indicator includes a graph of regional performance and a brief description of the results. **Figure 9** is the graph for Mental Health Measure 5: Adult Inpatient Readmission within 30 Days after Discharge. **Appendix 2B** contains a full list of performance measures used in this report.

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[16] Oklahoma Department of Mental Health and Substance Abuse Services,
http://www.odmhsas.org/eda/statisticsother.htm

Figure 9: Oklahoma Adult Inpatient 30-Day Readmission Rates
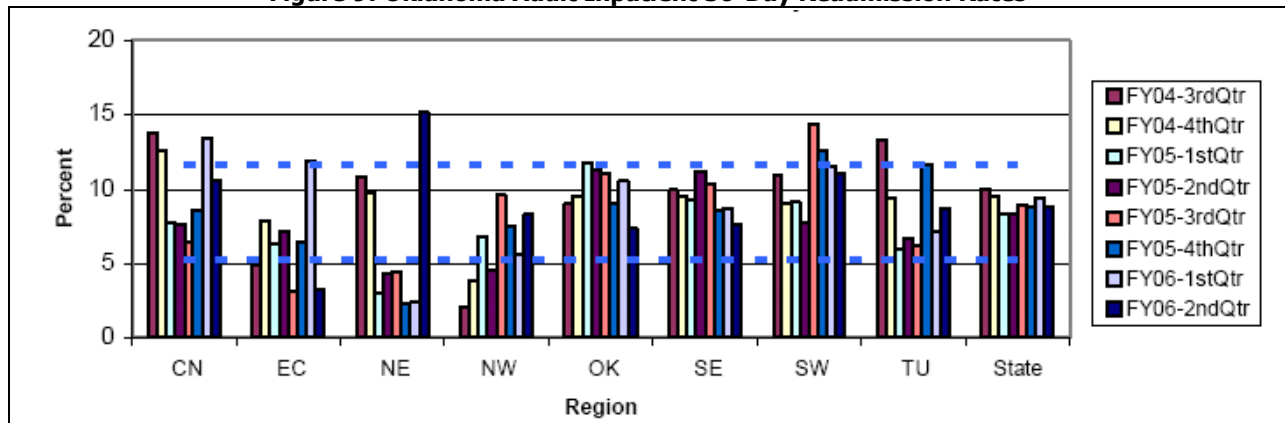
Source: Oklahoma Second Quarter FY2006 Regional Performance Management Report, Page 17

The Oklahoma online *Health Information Integrated Query System* is available to the public and allows any individual with internet access to query a statewide mental health and substance abuse database and create reports on a variety of topics. **Figure 9** shows a screen shot of a query, and **Figure 10** is a portion of the resulting report.

Figure 9: Query - Mental Health Clients for the Tulsa Region

Source: http://www.odmhsas.org/eda/basicquery/basicquery.htm

Figure 10: Report - Mental Health Clients for the Tulsa Region

State of Oklahoma **Department of Mental Health & Substance Abuse Services** *The mission of DMHSAS is to promote healthy communities and provide the highest quality care to enhance the well-being of all Oklahomans.*	**Persons Receiving DMHSAS-funded Mental Health Services Living in the Tulsa Metro Region** *FY 2002 - FY 2007*					
Counts of Persons Served	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Total						
Unduplicated Count	7,452	6,632	6,837	8,242	9,508	9,508
Sex						
Female	3,702	3,313	3,515	4,287	5,091	5,091
Male	3,750	3,319	3,322	3,955	4,417	4,417
Age						
0-6	23	21	32	145	212	212
7-12	96	119	151	409	529	529
13-17	130	141	156	292	452	452
18-25	1,124	1,062	1,060	1,190	1,272	1,272
25-64	5,948	5,215	5,376	6,122	6,946	6,946
65+	131	74	62	84	97	97

Strengths of the Oklahoma data reporting system include:

- Reports are produced quarterly on a pre-determined timeline
- Performance Management Reports compare the performance across the eight regions to the statewide average
- Performance Management Reports are graphical and include narrative comments
- The *focus* indicators on the Performance Management Reports contain goals and comparisons against those targets (internal benchmarks)
- Reports provide eight quarters or four years of trend data, depending on the report
- Reports are placed on the website and can be easily accessed and downloaded by the general public
- The public can customize the type and scope of information they want to view through the online query system

Drawbacks of the Oklahoma reporting system include:

- There is no set of overview reports that provide the broad picture of the system (e.g., Who gets What from Whom at what Cost?)
- The reporting system lacks a well-organized taxonomy to provide an ACMHA-like framework for understanding the system
- Reports do not contain comparisons with other states (external benchmarks)

New York

The New York Office of Mental Health uses a Balanced Scorecard approach to measure and report on "outcomes experienced by individuals served in our public mental health system, results of public mental health efforts undertaken by OMH, and critical indicators of organizational performance."[17]

The Balanced Scorecard was developed in the 1990s as a performance management tool to help focus stakeholders' attention on strategic issues in an organization or system. Typically Balanced Scorecards work with four performance measurement groups—Financial, Customer, Internal Business Processes and Learning & Growth—identifying a handful of measures in each group and identifying the relationships between groups.

New York has created a Balance Scorecard with three domains:

➢ Mental Health Services (17 measures)
➢ Outcomes (10 measures)
➢ System Management (5 measures)

The annual edition of the Balanced Scorecard lists the measure, the target, the current value, the percent of target achieved and a link to historical performance for the measure. **Figure 11** provides an excerpt of the March 2008 edition and **Figure 12** shows a detail of historical data for the measure *Develop and license additional Personalized Recovery Oriented Services (PROS) programs*. **Appendix 2C** contains a full list of performance measures used in this report.

Figure 11: New York Balance Scorecard Example

Definition	Management Objective (Program Area)	Target Value (Target Date)	Current Value (As of Date)	Past Values	% Target Achieved
ⓘ	Develop and license additional Personalized Recovery Oriented Services (PROS) programs. Personalized Recovery Oriented Services	21 Dec 31, 08	14 Feb 25, 08	🔄	67%
ⓘ	Increase the percentage of clinic services delivered on weekends and during the evening to children. Clinic	20% Mar 31, 08	19% Sep 30, 07	🔄	95%
ⓘ	Increase the number of children receiving home and community-based services waiver. Home and Community-Based Services Waiver	1,990 Dec 31, 08	1,796 Sep 30, 07	🔄	90%

Domain: Mental Health Services

Source: http://bi.omh.state.ny.us/scorecard/view

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[17] New York Office of Mental Health Balanced Scorecard, http://bi.omh.state.ny.us/scorecard/index

Figure 12: Balance Scorecard Drill-Down
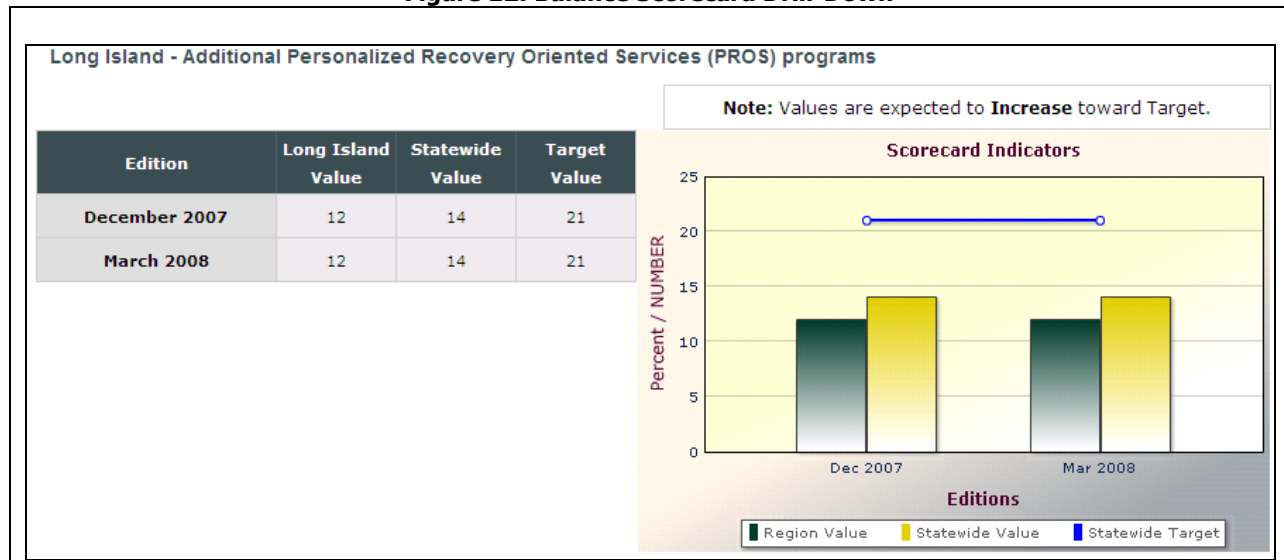
Strengths of the New York data and reporting system include:

- The Balanced Report Card approach brings a coherent structure to the reporting system
- The system uses a taxonomy similar to the URS and ACMHA models
- The system is web-based, provides detailed data and is available to the public
- Reports compare the performance across regions with statewide averages
- Performance Management Reports are graphical and include narrative comments

Drawbacks of the New York reporting system include:

- The Balanced Report Card initiative is one of several analysis and reporting efforts and there does not appear to be an overall reporting and analysis framework to connect the pieces
- There is no set of overview reports to provide the broad picture of the system (e.g., Who gets What from Whom at what Cost?)
- Reports do not contain comparisons with other states (external benchmarks)

IV. Summary

The effective delivery of mental health services requires the collection, analysis, and dissemination of data for systems and service planning, managing utilization of services, and assuring quality of patient care. Maryland collects a large amount of mental health data. However, there is still a need for additional data collection and analysis:

- *Information on the appropriateness of care decisions in the mental health care system.* For example, decisions about which patients are admitted for inpatient psychiatric care from hospital emergency departments should be examined. If patients are being admitted who could be served through other community resources, then the use of inpatient bed days could potentially be reduced. By evaluating the decisions made at emergency departs, it

may also be possible to identify particular community resources which are needed. In order to accurately evaluate the adequacy of community resources, it is critical to understand the decision processes at multiple stages of care. Therefore, it would also be useful to examine barriers to patient discharges that may result in extra days of inpatient care, for all types of hospital settings (private hospitals, general hospitals, State hospitals). By examining barrier to discharge, it may be possible to identify particular community resources needed to reduce the use of acute care.

- *Information on the supply and capacity of mental health facilities and services.* In particular, inventories of mental health crisis services need to be available at the local and regional level.   Information on the capacity of intensive outpatient and partial hospitalization programs and on both physical and staffed psychiatric hospital bed capacity should be routinely collected and integrated with utilization data. In addition, in order effectively plan for addressing personnel shortages, additional information on the supply and distribution of mental health professionals needs to be developed and analysis undertaken of the impact of this supply and distribution on use of facilities and services. It may be possible to compare counties with different levels of resources and patterns of inpatient acute care to draw conclusions about the level of resources necessary to minimize the use of inpatient psychiatric beds.

- *Information disseminated to the public.* There should be greater dissemination of information on the mental health care system, to encourage and improve communication among stakeholders.   A key component of future reports should be performance measures that provide a basis for public discussions of the effectiveness of the mental health system.

Appendix 1: Examples of Reports from the MAPS-MD Data Warehouse

Figure 1: Service Units Trend Report

Service Type	2002	2003	2004	2005	2006	2007
Case Management	25,505	28,647	29,030	30,312	34,501	34,169
Crisis	17,949	15,917	13,571	14,504	15,070	16,113
Inpatient	103,006	101,457	90,767	81,531	83,637	80,681
Mobile Treatment	7,150	7,911	9,043	9,856	11,699	14,631
Outpatient	1,408,456	1,583,263	1,657,717	1,828,908	2,261,306	2,452,583
Partial Hospitalization	48,400	61,283	49,494	56,774	66,198	76,036
Psychiatric Rehabilitation	2,086,027	2,180,497	1,798,309	1,338,987	1,450,515	1,502,167
Residential Rehabilitation	1,038,479	1,028,999	1,054,832	1,067,566	828,545	825,800
Residential Treatment	180,247	196,124	204,496	192,498	186,629	173,613
Respite Care	3,612	5,352	5,016	9,375	25,679	16,971
Supported Employment	7,318	8,107	8,114	8,152	11,754	17,904
Baltimore Group (Capitation)			3,675	3,945	4,000	4,006
Purchase of Care	2,273	3,189	3,963	5,275	5,177	6,024
Total	**4,928,422**	**5,220,746**	**4,928,027**	**4,647,683**	**4,984,710**	**5,220,698**

Figure 2: Medicaid Inpatient Expenditures

MA Expenditures - Child/Adult

	2002	2003	2004	2005	2006	2007
Total	$74,053,35	$78,228,68	$79,724,31	$78,713,60	$82,627,74	$88,245,48
Child	$29,805,50	$33,607,32	$36,999,28	$37,392,46	$38,045,99	$40,398,04
Adult	$44,247,85	$44,621,36	$42,725,02	$41,321,14	$44,581,75	$47,847,44
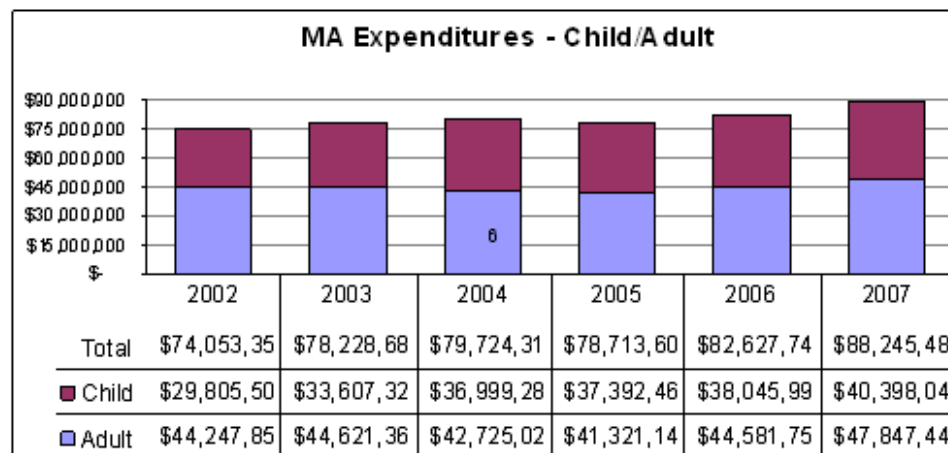
Figure 3: Uninsured Consumer Overview

Uninsured Consumers Served

	2002	2003	2004	2005	2006	2007
	17,469	14,006	14,527	14,976	16,819	14,100

State-Only Expenditures by Medicaid and Uninsured Consumers

	2002	2003	2004	2005	2006	2007
MASF	$36,162,430	$37,106,466	$29,350,720	$17,932,248	$16,235,248	$16,243,124
UIN	$26,885,952	$18,479,693	$27,865,695	$30,243,845	$35,063,560	$33,147,644

Average Cost per Consumer

UIN: 2002 $1,539; 2003 $1,319; 2004 $1,918; 2005 $2,019; 2006 $2,086; 2007 $2,351
MASF: 2002 $1,648; 2003 $1,524; 2004 $1,548; 2005 $3,684; 2006 $3,240; 2007 $3,267

Figure 4: Medicaid Consumers and Expenditures by County

Medicaid Consumers Served by County

County	Consumers
ALLEGANY	1,863
ANNE ARUNDEL	4,104
BALTIMORE CITY	27,745
BALTIMORE COUNTY	10,159
CALVERT	922
CAROLINE	962
CARROLL	1,561
CECIL	1,574
CHARLES	1,448
DORCHESTER	968
FREDERICK	2,015
GARRETT	918
HARFORD	2,426
HOWARD	1,726
KENT	371
MONTGOMERY	12,533
OUT OF STATE	28
PRINCE GEORGES	6,932
QUEEN ANNE	540
SOMERSET	756
ST. MARY	1,077
TALBOT	619
WASHINGTON	2,887
WICOMICO	1,871
WORCESTER	834

Medicaid Expenditures by County

County	Expenditures
ALLEGANY	$6,357,883
ANNE ARUNDEL	$21,789,621
BALTIMORE CITY	$134,463,419
BALTIMORE COUNTY	$50,462,162
CALVERT	$2,949,540
CAROLINE	$4,150,716
CARROLL	$6,811,206
CECIL	$7,300,565
CHARLES	$5,568,370
DORCHESTER	$5,588,928
FREDERICK	$11,985,484
GARRETT	$4,635,469
HARFORD	$9,754,826
HOWARD	$7,528,682
KENT	$1,854,445
MONTGOMERY	$29,951,346
OUT OF STATE	$112,684
PRINCE GEORGES	$41,720,643
QUEEN ANNE	$2,129,099
SOMERSET	$3,177,711
ST. MARY	$5,481,939
TALBOT	$1,957,652
WASHINGTON	$10,824,380
WICOMICO	$8,508,899
WORCESTER	$2,779,505

Appendix 2: Washington, Oklahoma and New York Mental Health Data Collected and Publically Reported

Appendix 1 lists the Performance Measures used in the Washington, Oklahoma and New York reports described in this white paper.

A. Washington

Access to Services
ACCESS I. A. Community Outpatient Penetration Rates (percent of population served)
ACCESS I. B. Community Outpatient Utilization Rates (hours per person served)
ACCESS II. A. Community Outpatient Penetration Rates for Medicaid Population
ACCESS II. B. Community Outpatient Utilization Rates for Medicaid Population
ACCESS III. A. Community Inpatient Penetration Rates (admissions per 1,000)
ACCESS III. B. Community Inpatient Utilization Rates (days per 1,000)
ACCESS IV. A. State Hospital Penetration Rates by Age
ACCESS IV. B. State Hospital Utilization Rates by Age
ACCESS V. A. Youth & Parent Perception of Access
ACCESS V. B. Adults' Perception of Access

Quality & Services
QUALITY VI. A. Youth and Parent Perception of Quality and Appropriateness
QUALITY VI. B. Adults' Perception of Quality and Appropriateness
QUALITY VI. C. Youth and Parent Perception of Participation in Treatment
QUALITY VI. D. Adults' Perception of Participation in Treatment Planning
QUALITY VII. A. Children/Youth Treatment Settings
QUALITY VII. B. Outpatient Clients who Received DASA and MHD Services
QUALITY VII. D. Clients with Mental Illness & Substance Abuse Disorder
QUALITY VII. F. Adult Outpatient Clients who Reported that they Received Physical Healthcare
QUALITY VII. G. Community Clients Received Services 7 & 30 Days After Being Discharged
QUALITY VII. H. Community Clients Readmitted 30 Days of Being Discharged From the Hospital
QUALITY VII. I. Community Outpatient Clients Not Hospitalized by RSN

Client Status
CLIENT STATUS VIII. A. Employment Status for Adults
CLIENT STATUS VIII. B. Volunteer Work for Adults
CLIENT STATUS IX. A. Living Situation: Adults Homeless
CLIENT STATUS IX. B. Living Situation: Adults Independent Living
CLIENT STATUS IX. C. Living Situation: Children & Youth
CLIENT STATUS IX. D. Living Situation: Children Homeless

Expenditures
EXPENDITURES X. A. Expenditures per Consumer for Community Outpatient Services
EXPENDITURES X. B. Expenditures per Hour of Community Outpatient Service
EXPENDITURES XI. A. Expenditures per Consumer for Community Inpatient
EXPENDITURES XI. B. Expenditure per Day of Community Inpatient
EXPENDITURES XII. A. Percent of Expenditures Spent on Direct Service Costs

B. Oklahoma

Section I—Focus Indicators

Mental Health
Measure MH4: Adult Inpatient Follow-up in Outpatient Care within 7 Days after Discharge
Measure MH11: Adults with MMI Receiving Case Management or Individual Rehabilitation Services

Substance Abuse
Measure SA2b: Initiation Following Detox Services
Measure SA3c: Engagement Following Residential Treatment

Section II—Additional Indicators

Mental Health—All Adults
Measure MH1: Adults Receiving Any DMHSAS-funded Mental Health Service
Measure MH3: Adult Inpatient Services
Measure MH5: Adult Inpatient Re-admissions within 30 Days
Measure MH6: Adult Mental Health Face-to-Face Crisis Events
Measure MH7: Adult Crisis Follow-up in Outpatient Care within 7 Days

Mental Health—Adults with a Major Mental Illness (MMI)
Measure MH9: Adults with MMI Core Outpatient Mental Health Services
Measure MH10: Adults with MMI Inpatient Services

Mental Health—Adult Select Priority Group
Measure MH13: Adult Select Priority Group Medication Visit

Mental Health—Evidence-Based Practices
Measure MH14: Illness Self-Management Training
Measure MH15: Family-To-Family Training
Measure MH16: Program of Assertive Community Treatment (PACT)

Mental Health—Children's Services
Measure MH17: Systems of Care (SOC)

Substance Abuse
Measure SA1: Identification
Measure SA2a: Initiation into Outpatient
Measure SA3a: Engagement In Outpatient
Measure SA3b: Engagement Following Detox

C. New York

Mental Health Services
1. Develop and license additional Personalized Recovery Oriented Services (PROS) programs
2. Increase the percentage of clinic services delivered on weekends and during the evening to children
3. Increase the number of children receiving home and community-based services waiver
4. Increase the number of clinicians who are trained in evidence-based treatments for trauma and depression in children
5. Increase the percentage of families who indicated global satisfaction with the mental health services they received for their child
6. Increase the percentage of families who indicated satisfaction with their child's functioning as a result of the mental health services their child received
7. Increase the percentage of youth who indicated global satisfaction with the mental services they received
8. Increase the percentage of youth who indicated satisfaction with their functioning as a result of the mental health services they received
9. Establish new collaborations with schools, preventive services agencies, primary care practices and early childhood programs as Clinic-Plus is implemented
10. Increase the occupancy rate for the Supported Housing program
11. Increase the percentage of priority populations admitted to voluntary residential programs funded by OMH
12. Decrease the percentage of program recipients who have been in residence for over two consecutive years at a single, voluntary residential program funded by OMH
13. Develop scattered site Supported Housing beds based upon the development schedule in the NY/NY III agreement
14. RFP & allocate 575 scattered site Supported Housing beds based upon development schedule in the NY/NY III agreement
15. Procure and award operating contracts for 1,125 efficiency apartments (congregate units) for priority populations (set-asides) based upon development schedule in the NY/NY III Agreement
16. Increase percentage of adults receiving OMH operated outpatient services who rate service quality as good to excellent
17. Increase the percentage of OMH licensed facilities enrolled in the NYS Incident Management and Reporting System (NIMRS)

Outcomes
1. Reduce percentage of recipients who had psychiatric hospitalizations while receiving ACT services
2. Reduce percentage of ACT enrollees with episodes of homelessness while receiving ACT services
3. Increase the number of suicide prevention, education and awareness materials disseminated
4. Increase percentage of adults receiving OMH operated outpatient services who rate their overall quality of life as good to excellent
5. Reduce the number of completed suicides during inpatient psychiatric hospitalizations and within 72 hours of discharge from such hospitalizations
6. Reduce the total number of patient hours in restraint per 1,000 patient hours in State-operated children's psychiatric facilities
7. Reduce the total number of patient hours in restraint per 1,000 patient hours in State-operated forensic psychiatric facilities

8. Reduce the total number of patient hours in seclusion per 1,000 patient hours in State-operated adult psychiatric facilities
9. Reduce the total number of patient hours in seclusion per 1,000 patient hours in State-operated children's psychiatric facilities
10. Reduce the total number of patient hours in seclusion per 1,000 patient hours in State-operated forensic psychiatric facilities

System Management
1. Reduce percentage of individuals with a diagnosis of schizophrenia on 3 or more antipsychotic medications (oral = depot) at the same time
2. Increase the percentage of individuals with a diagnosis of schizophrenia who are eligible for clozapine and received it
3. Increase the number of licensed programs with current licenses
4. Increase the timeliness of response to applicants requesting OMH prior approval to operate or expand licensed programs
5. Maintain appropriate accreditation from The Joint Commission (TJC) and certification from the Centers for Medicare and Medicaid Services (CMS) for all state-operated mental health programs